

# THE STRUCTURE OF FINDINGS IN THE ALH 84001 MAY HINT AT THEIR INORGANIC ORIGIN. L.V.Ksanfomality, Space Research Institute, Moscow, Russia.

The ALH 84001 lessons showed that science at the end of XX century is ready for discovery of the simplest organisms on celestial bodies, where minimum conditions for life exists. These conditions, as well as the ways of the origin of primitive microorganisms, are already understood and described in the scientific literature. The work by McKey et al. [1] reported that the SNC meteorite ALH 84001 possibly contains traces and fossiles of ancient primitive life from Mars. Nevertheless the authors of this very first publication believed that a highly comprehensive verification and more carefull further investigations were needed. In this paper few remarks on the origin of the structures in the ALH 84001 meteorite are proposed. They may be of interest as a possible proof of their abiogenic nature.

One of the most intriguing electron-microscopic photoes is the peculiar morphology observed in the globule, shown in Gibbs and Powell [2] and in McKey et al. [1]. The features are microscopic elongated formations and resemble the fossils of a colony of ancient terrestrial bacteria from travertines and limestone. Besides the fact that these ovoids are approximately of the same sizes and so this is not the case for terrestrial bacteria [3], there is an another interesting detail. All the elongated ovoids are apparently separated from the solid layer at the top and from the layer situated lower.

If so, it should presumed that all bacteria constituted a continious layer before the separation. It seems more likely that one can see in this photo the process of fragmentation of some inorganic film. Such processes are known and have nothing in common with bacteria [4].

An another photo of a very small structure resemling a worm fossils by its shape, was published by Kerr [5] and McKey et al. [1], also as a possible ancient primitive life from Mars. Just for a comparison here is a set of electron-microscopic photoes of four micro structures found in kerite from pegmatites in granites (Volin' area in Russia). The images were obtained and published by Yushkin [6] and reproduced by Galimov [7]. One may see how unusual and strange the shapes of inorganic structures of some minerals are. Their structures mimic some bacteria and may mislead about their real nature.

**References:** [1] McKay D. S. et al. (1996) *Science*, 273, 924–930. [2] Gibbs W. W. and Powell C. S. (1996) *Sci. Am.*, 275, 12–13. [3] Schopf W. (1997) *Planetary Systems—the Long View*, 9emes Recontres de Blois, 22–28. [4] Ksanfomality L. V. (1997) *Solar System Research*, 31(3), 175–182. [5] Kerr R. A. (1996) Ancient Life on Mars? *Science*, 273, 864–865. [6] Yushkin N. P. (1996) *J. Cryst. Growth*, 167, 237–247. [7] Galimov E. M. (1997) *Solar System Research*, 31(3), 183–190.

## STRUCTURE OF FINDINGS IN ALH 84001: L. V. Ksanfomality

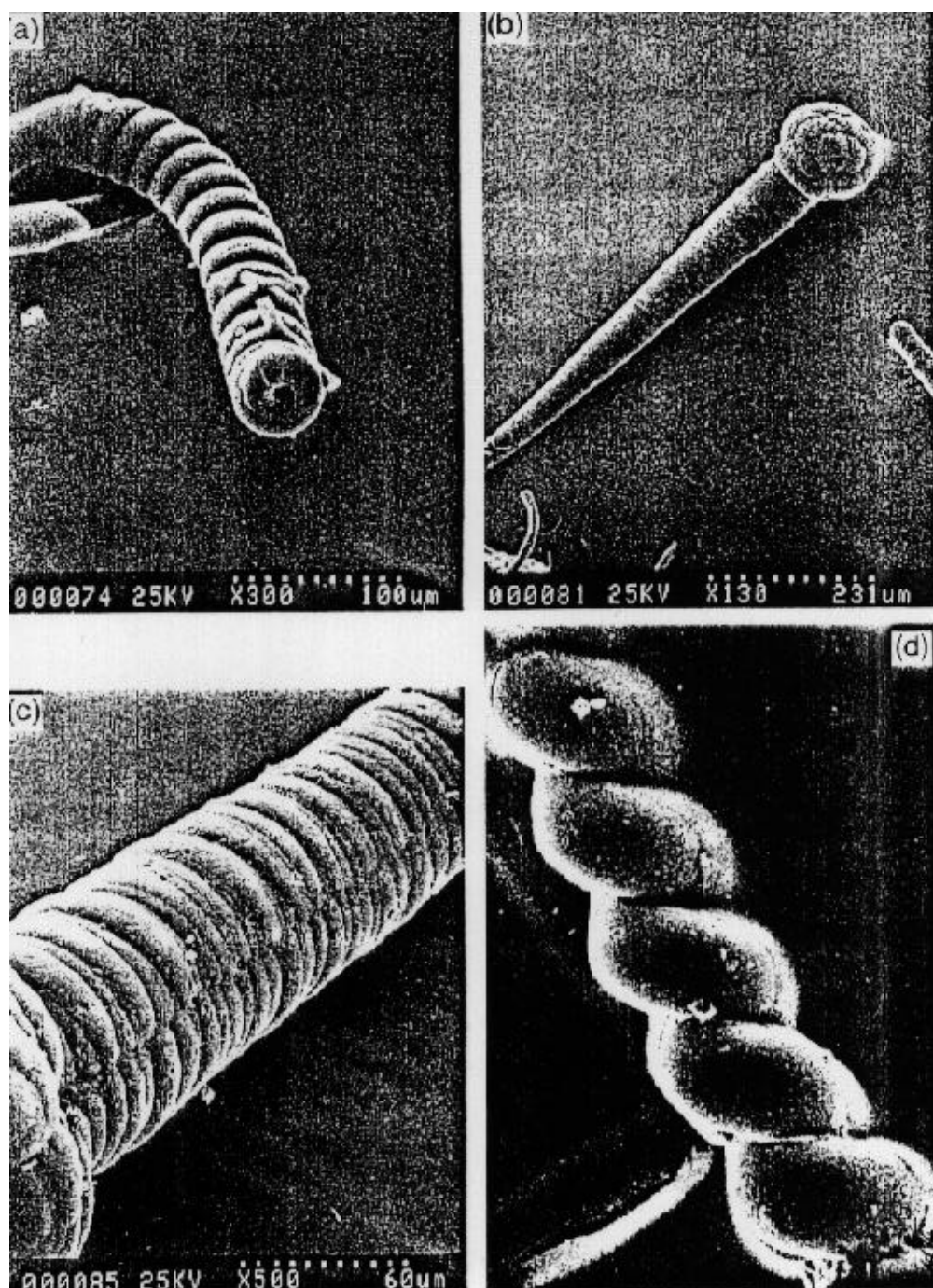


Fig. 1.